

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawing includes changes to FIG. 2. Sheet 1, which includes FIG. 2, replaces the original sheet including FIG. 2.

REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on March 28, 2005. Claims 1-3 and 5-12 are pending in the Application and Claims 1-4 stand rejected. Claim 2 is amended, Claim 4 is cancelled without prejudice or disclaimer, and new Claims 5-12 are added by the present Amendment.

Summarizing the outstanding Office Action, the drawings were objected to under 37 C.F.R. § 1.83(a), Claim 4 was rejected under 35 U.S.C. § 112, first paragraph as failing to comply with an enablement requirement, Claims 2 and 4 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite, and Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Otaguro (U.S. Patent Publication No. 2002/0064439 A1) in view of Tokunaga (U.S. Patent No. 6,473,993).

As to the objection to Applicants' drawings, Applicants respectfully submit that the chamber recited in Claim 1 refers to the chamber formed by the mini-environment, which is clearly shown in the originally filed drawings. As such, no corrections are needed to address the outstanding objection to Applicants' drawings. Reconsideration of that objection is respectfully requested. However, Applicants have submitted herein a replacement for FIG. 2, including a lead line and indicia identifying the projections or protrusions 3a. No new matter has been added by the replacement drawings submitted. Entry of the replacement for FIG. 2 is respectfully requested.

Applicants respectfully submit that cancellation of Claim 4 moots the outstanding rejection thereof under 35 U.S.C. § 112, first paragraph.

As to the rejection of Claims 2 and 4 under 35 U.S.C. § 112, second paragraph, Applicants note with appreciation the time taken by the Examiner to identify specific areas

needing revisions. Applicants submit that the enclosed claim amendments have overcome these rejections under 35 U.S.C. §112 and respectfully request their withdrawal. It is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

As to the obviousness rejection, Applicants respectfully submit that Otaguro and Tokunaga, neither individually nor in any combination, support a *prima facie* case of obviousness of the invention recited in Claim 1. This is so because, even when combined, these references do not teach or suggest all the claimed features.

According to a feature of the invention as set forth in Claim 1, a wafer processing apparatus is recited, comprising, among other features, a first opening portion and a door that closes the first opening portion when the transfer of the wafer is not performed and that opens that portion when the transfer of the wafer is performed. A gas flow path from the chamber to the exterior of the mini-environment portion is formed such that a flow rate of gas flowing from the chamber to the exterior of the mini-environment portion when the wafer transferring operation is not performed becomes substantially equal to a flow rate of gas flowing out from a space formed from the chamber and the clean box when the wafer transferring operation is performed.

As disclosed in the Specification, conventional semiconductor devices for the processing of wafers are kept in a highly clean condition by maintaining the pressure within the mini environmental portion higher than an external ambient pressure. As such, when a door of the mini-environment is opened for transferring of the wafer, an airflow with a variable flow rate and a significant turbulence level is created, causing dust to be transported into the mini-environment, thus contaminating the wafer being processed. The flow path

recited in Claim 1 is such that a flow rate of a gas flow from the inside of the mini-environment to the outside when the door is closed is substantially equal to the flow rate of the gas when the door is opened. As such, the above-described flow with a high level of turbulence is significantly reduced or eliminated. Otaguro does not teach or disclose such an advantageous flow path.

The outstanding Office Action asserts that the guide slit 52 of Otaguro forms the gas flow path recited in Claim 1. Applicants respectfully disagree. The guide slit 52 is a slit in which the arm member 44 moves horizontally and vertically along.¹ Hence, if any gas flows through the slit 52, it is not the gas flow of the present invention which passes through a clearance between the door and the opening portion of the mini-environment.

In addition, in Otaguro, the clearance between the FOUP 10 and the port plate 21 is made as small as possible in order to prevent dust from being mixed into the inner gas of the FOUP 10, to prevent dust from attaching to the door 13, and to prevent clean air from flowing outwardly. That is, there is no gas flow path around the opening of the FOUP 10, as easily understood from FIGS. 1 and 2 of Otaguro.

On the contrary, in the present invention, as a non-limiting example, the gas flow path is positively formed by using the opening 2 and clearance 14 so as to form a gas flow path from a space formed by the chamber and the inner space of clean box to the exterior thereof, so that the flow rate of gas flowing along the gas flow path is made substantially constant irrespective of the opening or closing state of the door, thus preventing or minimizing dust from being mixed into the gas in the clean box.²

¹ Otaguro, page 3, paragraph [0031].

² Above described characteristic features of the claimed inventions are supported by Applicants' specification, as a non-limiting example, on page 7, lines 15-17; page 9, lines 18-22; page 10, lines 20-23, and page 11, lines 5-20.

Tokunaga, being cited for disclosing a clean environment as a mini-environment does not remedy the above-noted deficiency of Otaguro with respect to the formation of a gas flow path as just explained.

Accordingly, Otaguro and Tokunaga, neither individually nor in any combination, render obvious the invention recited in Claim 1. Claims 2 and 3 should be allowed, among other reasons, as depending either directly or indirectly from Claim 1, which should be allowed as just explained.

In addition, Claims 2 and 3 are further considered allowable as they recite other features of the invention that are not disclosed, taught, or suggested by the applied references when those features are considered within the context of the subject matter recited in independent Claim 1. For the foregoing remarks, Applicants respectfully request withdrawal of the rejection of Claims 1-3 under 35 U.S.C. § 103(a).

Finally, Applicants have submitted new Claims 5-12, which find non-limiting support on the subject matter originally disclosed in the originally filed claims and as follows: (1) as to Claim 5, support is self-evident from the originally filed claims and figures; (2) as to Claims 6 and 7, on page 11, lines 19-25 of Applicants' specification; (3) as to Claims 8 and 9, on page 12, lines 4-18; (4) as to Claim 10, on page 8, lines 10-19; (5) as to Claim 11, on page 13, lines 15-25; and (6) as to Claim 12, on page 14, lines 6-14. Therefore, new Claims 5-12 are not believed to raise a question of new matter.³

New independent Claim 5 recites a wafer processing apparatus, comprising, among other features, a first opening, a door configured to open and close the first opening, and a gas flow path formed between the door and the first opening when the door is closed such that a flow rate of a gas flowing through the gas flow path is substantially equal to a flow rate of the gas flowing from the pressurized chamber to the exterior of the mini-environment portion

³ See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

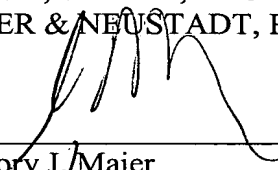
through the opening when the door is opened. Claims 6-12 depend from Claim 5. Based at least on the above-noted remarks, Applicants believe that new Claims 5-12 are patentable over the combination of Otaguro and Tokunaga.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-3 and 5-12 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

Respectfully submitted,

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